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Remarks/Arguments

Claims 1-6 and 8-43 are amended. Claims 44-118 are withdrawn. Claims 119-148 are added. No new matter has been added to the specification.

1. Election Requirement

As detailed in the Office Action, the acknowledgement of Applicant's election without traverse of Group I, claims 1-43, for further prosecution is hereby noted.

2. §101 Claim Rejections

Claims 1-43 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Additionally, claims 15-29 were rejected under 35 U.S.C. § 101 as being intangibly embodied. Applicants respectfully disagree with this rejection.

As amended, independent claim 1 is directed to a "computer program embodied on a computer readable medium for building a knowledge-oriented software application using an object-oriented programming language" Independent claim 15 is directed to "a computer-implemented method for providing a formally-defined programming model" Independent claim 30 is for "a computerized system for building a knowledge-oriented software application using an object-oriented programming language" Thus, independent claims 1, 15 and 30 satisfy 35 U.S.C. § 101 and the Computer-Related Inventions guidelines set forth in MPEP § 2106. Applicant notes that the "Commissioner now states that 'computer programs embodied in a tangible medium, such as floppy diskettes, are patentable subject matter under 35 U.S.C. § 101 and must be examined under 35 U.S.C. §§ 102 and 103.'" See, *In re Beauregard*, 53 F.3d 1584, 35 U.S.P.Q.2d 1383 (Fed.Cir.1995). There is no equivocation in this ruling: a computer program embodied in a tangible medium—as recited in claims 1, 15 and 30—is patentable subject matter under

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35 U.S.C. § 101. Therefore, Applicant asserts that the claims are directed to statutory subject matter and requests that the Examiner withdraw the 35 U.S.C. § 101 rejections.

Moreover, claims 1, 10 and 30 are also statutory according to the guidelines set out in MPEP § 2106. The claimed code segments, which are included in the recited computer program embodied on a computer readable medium, a computer implemented method and a computerized system, are clearly functional descriptive material when they are part of a computer system. When such functional descriptive material is embodied on a computer structure or system, it constitutes statutory subject matter. *Id.* Furthermore, as described in MPEP § 2106, p. 2100-12:

When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

The recited medium clearly includes structure, and the recited code segments clearly include functional computer instructions and are more than mere data structures.

Applicant asserts the claimed invention is tangibly embodied as required under 35 U.S.C. § 101. In response to the attention that computer-related inventions and business method inventions have received by the courts (See e.g., *State Street Bank & Trust Co. v. Signature Financial Group Inc.*, 47 USPQ2d 1596), the Patent Office drafted its Examination Guidelines for Computer-Related Inventions. See MPEP § 2106. These guidelines affirmatively state that Office personnel will no longer begin examination by determining if a claim recites a mathematical algorithm. Rather, the claimed invention must produce a "useful, concrete and tangible result." Independent claim 1 now recites a "computer

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program embodied on a computer readable medium for building a knowledge-oriented software application using an object-oriented programming language" Independent claim 15 is directed to "a computer-implemented method for providing a formally-defined programming model" Independent claim 30 is for "a computerized system for building a knowledge-oriented software application using an object-oriented programming language" These are all useful, concrete and tangible results of Applicant's invention.

In light of the forgoing, Applicant assert that the requirements of 35 U.S.C. § 101 are met by claims 1-43. Accordingly, Applicant respectfully requests that Examiner withdraw the 35 U.S.C. § 101 rejections.

3. §112 Claim Rejections

Claims 1-43 were rejected under 35 U.S.C. § 112, ¶ 2, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as his invention. The Office Action alleges that the claims appear to be directed to models used for building knowledge-oriented software applications but the independent and dependent claims relate only to models and their organizational structure, imparting no functionality towards building a software application. In addition, the Office Action states that the models comprise specifications dictating what the models can do but there is no information about or structure to the specifications. Applicant has amended claims 1-6 and 8-43 to affirmatively claim a computer program embodied on a computer readable medium, a computer-implemented method, and a computerized system for building a knowledge-oriented software application using an object-oriented programming language" In addition, Applicant has amended claims 1, 15 and 30 to remove all reference to the "specifications" thereby obviating the rejection pursuant to 35 U.S.C. § 112, ¶ 2.

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The Office Action also states that claims 1-43 were rejected under 35 U.S.C. § 112, ¶ 2, because of the recitation of vague and ambiguous terms, including "knowledge" as it is used in "knowledge-oriented" and "knowledge-oriented software application" and "physical" as it used in "physical implantation."

When specifications provide specific definitions for claim terms, the definition provided in the specification is used to interpret claim language during examination of a patent. See MPEP § 2111.01. With respect to "knowledge," Applicant's specification defines "knowledge" as "what we know, how we infer, and how we react to external events." See Specification, US 2003/0069871 A1, page 3, ¶ 54. Additionally, Applicant's specification further provides that knowledge-oriented software applications generally include

a formally-defined programming model . . . provid[ing] knowledge oriented software design and construction; packaging of knowledge into knowledge components; generalized queries as knowledge components; assembling knowledge components into knowledge oriented applications; independence from a programming language and development tool; rules, events, constraints, relations, classes, and objects within a single programming environment; a computing model based on most common object oriented programming and database concepts; independence from any persistence mechanism; declarative application design and binding; object oriented representation of knowledge; packaged, ready to use, shareable knowledge components; a run-time that can integrate knowledge components into knowledge applications; a software design and development model that emphasizes the componentization of knowledge; and persistence formats compatible with widely accepted formats, such as relational databases and XML. See *Id.* at ¶ 53.

Based on the foregoing in addition to the claim amendments made herewith, Applicant asserts that the use of "knowledge" as it is used in "knowledge-oriented" and "knowledge-oriented software application" is not indefinite.

Applicant's specification explains "physical implementation" according to the Meta Model where:

users design the application at a logical level and then assemble a set of implementing components at run time. Logical application definition and dynamic binding is key to realizing knowledge component technologies and markets. A precise mapping of the logical design to physical implementation

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is also critical to the development of visual design tools and automatic code generation. The conversion from logical to physical model is lossless. The separation of logical and physical design enables the domain experts to design the application without worrying about the implementation." *See Id.* at page 5, ¶ 75.

Based on the foregoing as well as the claim amendments made herewith, Applicant asserts that the use of "physical" as specifically used in "physical implementation" is not indefinite. According to the foregoing and the claim amendments made herewith, Applicants respectfully request reconsideration and allowance of the claims.

4. § 102(e) Claim Rejections

Claims 1-43 were rejected under 35 U.S.C. § 102(e) as being anticipated U.S. Patent No. 6,374,252 to Althoff et al. (hereinafter "Althoff"). Applicant respectfully disagrees.

Althoff fails to disclose, teach or suggest Applicant's invention as now claimed. Specifically, Althoff fails to disclose, teach or suggest a "computer program embodied on a computer readable medium for building a knowledge-oriented software application using an object-oriented programming language, the computer program comprising . . . a Meta Knowledge Model comprising a means for representing knowledge in the knowledge-oriented software application; a Meta Logic Model comprising a means for deriving new knowledge in the knowledge-oriented software application; a Knowledge Definition Model comprising a means for converting the knowledge-oriented software application from a human-readable format to a computer executable process; a Catalog Model comprising a means for modeling the knowledge-oriented software application within an electronic device; and a Run-time Model comprising a means for enabling concurrent clients to execute the knowledge-oriented software application to manipulate the knowledge stored in the electronic device."

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Althoff is directed to a method and system for modeling, storing and querying objects in relational databases, where queries are expressed in Structured Query Language (SQL). *See* Abstract; col. 3, lines 12-25. Althoff fails to disclose, teach or suggest at least "building a knowledge-oriented software application" by using a "means for representing knowledge in the knowledge-oriented software application . . . means for deriving new knowledge in the knowledge-oriented software application . . . means for converting the knowledge-oriented software application from a human-readable format to a computer executable process . . . means for modeling the knowledge-oriented software application within an electronic device . . . [and] means for enabling concurrent clients to execute the knowledge-oriented software application to manipulate the knowledge stored in the electronic device." Accordingly, Applicants' claimed invention is not anticipated by Althoff.

Based on the foregoing, independent claims 1, 15 and 30 are not anticipated by Althoff. Accordingly, the claims depending from these independent are not anticipated by Althoff. Thus, Applicant respectfully requests reconsideration and allowance of amended claims 1-6 and 8-43 and added claims 119-148.

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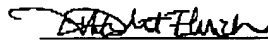
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Conclusion

In the event a telephone conversation would expedite the prosecution of this application, the Examiner may reach the undersigned at 612-607-7345. If any fees are due in connection with the filing of this paper, then the Commissioner is authorized to charge such fees including fees for any extension of time, to Deposit Account No. 50-1901 (Docket 22674-3001).

Respectfully submitted,



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